

## OPTIMAL INITIAL RASTERIZATION STARTING POINT

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ABSTRACT OF THE DISCLOSURE

A frame buffer is divided into tiles of, for  
10 example, 32 by 32 pixels. Triangles (and portions  
thereof) that are within a given tile are rasterized  
one triangle at a time into the tile location. This  
process repeats for each tile in the image frame. A  
sorting circuit generates control bits representing a  
15 vertical order of the vertices of a current triangle.  
A series of multiplexers vertically sorts the vertices  
bases on these control bits. A region calculation  
circuit generates region bits representing a location  
each of the vertices with respect to the current tile.  
20 A trivial discard of the triangle data occurs if the  
region bits indicate that the entire triangle lies  
outside of the tile. Subsequently, an initial  
rasterization starting point is estimated based on the  
region bits to lower the time needed for the rasterizer  
25 to find the first pixel of the current triangle to be  
assigned values.